# Review Comments of USOR RI/FS Plans

# Dated September 30, 2015

| Reviewer's Name | Agency |
|---|---|
| **Anna Milburn** | **EPA – Human Health Risk Assessor** |
| **Kenneth Shewmake** | **EPA – Ecological Risk Assessor** |
| **Raji Josiam** | **EPA – Remedial Project Manager** |
| **Lam Tran** | **TCEQ – Project Manager** |
| **Michael Cave** | **TCEQ – Lead Administrative Trustee** |

## General Comments

| Section | Reviewer's Name | Comments |
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| - | Kenneth Shewmake | I did not see a discussion of potential (Applicable or Relevant and Appropriate Requirement) ARARs or a discussion of comparing media concentrations to ARARs. While the TCEQ screening values incorporate common ARARs like Ambient Water Quality Criteria (AWQC) it would be good to confirm that Contaminants of Potential Concern (COPCs) that exceed ARARs are not screened out. |
| - | Raji Josiam | The Statement of Work attached to the AOC for AOI-1 discusses the following under Task 2: Remedial Investigation and Feasibility Study Work Plan Item 23:<br>"The Draft RI/FS WP shall reflect coordination with treatability study requirements (Task 8 (Treatability Studies)), if any, and will show a process for and manner of identifying Federal and State chemical-, location-, and action-specific ARARs." |

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| | | Please discuss in document. |
| - | Kenneth Shewmake | While the specific details of fish and shellfish sampling have not been established, and will be determined if the 3rd iteration of sampling is needed, we may need to do some sampling for prey sized fish for the ecological risk assessment. We would want to do whole body samples if this is needed. |
| - | Kenneth Shewmake | Background sampling for soil should be done in the first iteration. Background sampling for sediment could wait for the second iteration, but it would be useful for onsite sediment. |
| - | Kenneth Shewmake | The assumption is made in the work plan documents that the ditch on the southwest side of the site is intermittent. I did not see any kind of evaluation to confirm this or determine how frequently the area is submerged. During a site visit it appeared the area had aquatic receptors that would indicate the area is submerged much of the time. More information is needed before it can be assumed that the area is intermittent. This would also impact the screening values used as chronic freshwater screening values would be needed. |
| - | Lam Tran | Please include Table of Contents inside the "Bookmark" in all PDF documents to aid the navigation |
| - | Michael Cave | Regarding the work plan and the Iteration 1 sampling plan, I do not have any comments at this time, and I have not received any comments from the other Trustees. Please continue to keep us in the loop. We would be very interested in attending any meeting to discuss the results from Iteration 1 and the selection of COPCs and sampling locations for iteration 2. |
| - | Raji Josiam | The Statement of Work attached to the AOC for AOI-1 discusses the following under Task 2: Remedial Investigation and Feasibility Study Work Plan Item 21:<br>"The RI/FS shall be conducted in a manner that minimizes environmental impacts in accordance with the EPA's Principles for Greener Cleanups (EPA 2009a.) and EPA Region 6 Clean and Green Policy (EPA 2009b.) to the extent consistent with the National Contingency Plan (NCP), 40 CFR Part 300. The Best Management Practices available at http://www.cluin.org/greenremediation/ shall be considered."<br><br>Please include in the workplan how this will be addressed. |

# RI/FS Work Plan Comments

| RI/FS Work Plan Section | Reviewer | Comments |
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| Section 1.0 Page 1 | Raji Josiam | Introduction: Second Bullet - Area of Investigation 2: Please reference 200 N. Richey as just MCC Recycling or MCC Property and remove reference to "City of Pasadena" to keep it consistent with the AOC for AOI-1. |
| Section 2.1.1.1, Page 4 | Kenneth Shewmake | Current Conditions: A general description of the contents of the drums, totes and roll off boxes is needed. |
| Section 2.1.1.2, Page 5 | Anna Milburn | Land Use: The land use section focuses on the groundwater underlying the USOR property and states that it shall not be used for drinking water. However, water that migrates offsite could potentially be used for drinking water purposes. Please provide additional information regarding the groundwater classification in the area. |
| Section 2.1.1.2 Page 5 | Raji Josiam | Land Use: What are the details of the restrictive covenants? Who placed them? When were they placed? Please reference the restrictive covenant in the Reference Section. EPA RPM would like to receive a copy. |
| Section 2.1.1.2 Page 5 | Raji Josiam | Land Use South: Shouldn't MCC Recycling be included on the list? |
| Section 2.1.3.2, Page 12 | Anna Milburn | Groundwater Use: One well in the area was identified at being used for public supply (State Well 6523101) which is approximately 0.5 miles east of USOR in the Evangeline Aquifer. The City of Pasadena indicated that the well was not currently being used as a public water supply well. If a plume is present, further groundwater characterization may be necessary offsite. |
| Section 2.1.3.2 Page 12 | Raji Josiam | Groundwater Use: It will be worthwhile to find where the groundwater supply wells locations are from the City. Is this something that will be in the Texas Wells Database? We need to know at least the nearest distance of these wells in the upgradient and maybe downgradient directions. Also what the depth and drawdown rate to see if these wells have any impact on the groundwater movement at the site. This will definitely be asked by the public since they are |

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| | | drinking the City water. At some point, it will be useful to obtain the map of the drinking water supply lines and depths to the area in the vicinity of the site. |
| Section 2.1.3.2 Page 12 | Raji Josiam | Groundwater Use: It will be worthwhile to find out which un-registered groundwater supply well is upgradient and which well is downgradient and at what distance from the site. |
| Section 2.2.2 Page 15 | Raji Josiam | Site Operational History: Please specify Bayer's relationship to Rhodia and Chipman. |
| Section 2.2.3 Page 17 | Raji Josiam | Investigation History: Why aren't Chipman, Rhodia, Hoyer, Coversud listed as a PRP? What is their connection to Bayer Crop Science? |
| Section 3.3 Page 25 | Raji Josiam | Preliminary Conceptual Site Model: Why is the restrictive covenant implemented during the RI/FS phase and not the RA phase? Depending on the groundwater plume the restrictions may need to be placed offsite in the RA phase. |
| Section 4.2 Page 29 | Raji Josiam | Work Plan Approach – 6$^{th}$ bullet - Comment: MNA as a remedy will be considered only if appropriate, based on contamination levels, and site conditions, and the 9 criteria will need to be considered for this and other remedial alternatives |
| Section 5.4 Page 32 | Raji Josiam | Task 4: Remedial Investigation/Feasibility Study Health and Safety Plan: "HSP" – Should that be "HASP" |
| Section 5.5 Page 32 | Raji Josiam | Task 5: Community Relations Plan: Should this be Community Involvement Plan? EPA updated the CIP in May 2015; Please update reference |
| Section 5.6.4.1, Page 39 | Anna Milburn | Soil Sampling: EPA typically evaluates surface soil (0-2 ft bgs) and subsurface soil (> 2 ft bgs) in the risk assessment. It is not clear why these sampling depths for surface soil (0 to 0.5 ft bgs), shallow soil (0.5 to 5 ft bgs) and subsurface soil (greater than 5.0 ft bgs) were selected. |
| Section 5.6.4.1 Page 39 | Raji Josiam | Iteration 1 – AOI-1 On-Property and Off-Property Soil Investigation: Soil Sampling: May need collect soil samples from deeper levels if contamination is founds in the uppermost two intervals |
| Section 5.6.4.1 Page 39 | Raji Josiam | Iteration 1 – AOI-1 On-Property and Off-Property Soil Investigation: Soil Sampling: Why won't sampling be done beyond the water table? What if the deeper soils and deeper aquifer are affected? What is the plan? |

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| Section 5.6.4.1, Page 40 | Kenneth Shewmake | Iteration 1 - AOI-1 On-Property and Off-Property Soil Investigation - Background Soil Sampling: Second Paragraph, Second Bullet - Statement appears to be incomplete. |
| Section 5.6.4.2 Page 40 | Raji Josiam | Iteration 1 – AOI-1 On-Property and Off-Property Groundwater Investigation: How will deeper ground water bearing units be handled? |
| Section 5.6.4.2 page 41 | Lam Tran | High Resolution Site Characterization: Need some descriptions or rationales for the scale of the "high-resolution". Another word, how do we know that the scale presented will be appropriate to characterize the site?<br><br>Also, I believe the technology allows to drill through concrete slab in buildings. Is there a reason why SB on some transects skipped the building in Fig. 9? |
| Section 5.6.4.2 page 41 | Lam Tran | High Resolution Site Characterization: Initially, a series of vertical subsurface profiles using cone penetrometer testing (CPT) and/or the rapid optical screening tool (ROST) will be conducted perpendicular to the direction of groundwater flow. How about using MIP attachment for sampling VOC and some VOC in both saturated and unsaturated zones? See. GW HRSC booklet page 4-31 |
| Section 5.6.4.2 page 41 | Lam Tran | High Resolution Site Characterization: "At most of the transect locations, only the CPT tool will be advanced to provide stratigraphic information" What about hydrostratigraphy (permeability, porosity, hydraulic conductivity, etc.) for fate & transport calculation? |
| Section 5.6.4.2 Page 43 | Raji Josiam | Iteration 1 – AOI-1 On-Property and Off-Property Groundwater Investigation: Water Well Survey: What TCEQ classification is the water source? |
| Section 8.4 Page 58 | Raji Josiam | Data Transmittal: Since we also use ftp site and usb to electronically transfer data you can say "Data can be transferred electronically either on disc, CD, or as an email attachment or as agreed with the EPA RPM" |
| Table 11 | Anna Milburn | Data Needs Summary: The data needs summary should include sampling of offsite groundwater if contamination is identified in the onsite groundwater. Additional water bearing units may need to be sample if significant groundwater contamination is found. |

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| Table 11, Page 4 | Kenneth Shewmake | Data Needs Summary: Based on this table it appears that vapor intrusion is not being evaluated. This table should show that COPCs in groundwater as well as soil may contribute to vapor intrusion. The legend says yellow color indicates that exposure concentrations are estimated based on media concentrations. Alternate methods of testing vapor concentrations may be needed. |
| Figure 2 | Kenneth Shewmake | Site Vicinity Map: (same comment as QAPP Figure 2) The surface water/sediment background area 2 is too close to the site and may be impacted by site activities. The other background areas seem to be more appropriate. |
| Figure 4 | Kenneth Shewmake | Wetland Map: During a site visit we observed aquatic habitat in a shallow trench on the south west side of AOI-1. This area should be indicated on this figure. |
| Figure 7 | Anna Milburn | Human Health Preliminary Conceptual Site Model:<br>• The trespasser scenario should assume the individual may access the onsite property as well as the areas adjacent to the property offsite.<br>• The conceptual site model should also include the potential for exposure to off-property groundwater.<br>• Indoor air could be a complete pathway for the off-site resident if groundwater contamination is found to be migrating offsite. |
| Figure 8 | Kenneth Shewmake | Ecological Preliminary Conceptual Site Model: (Same comment as QAPP Figure 5) It is possible the onsite sediment and surface water, in the shallow trench on the south west side of AOI-1, is impacted by contaminants from the groundwater to surface water pathway. This should be shown on the CSM unless it is shown this pathway is not complete. |

# RI/FS Field Sampling Plan (FSP)

| Section | Reviewer's Name | Comments |
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| Section 2.3 Page 6 | Raji Josiam | Potential Source Areas and Chemicals of Potential Concern: PSA 5 Containment Pond: How is Containment pond planned for removal? Will lining be removed or left as is? Please specify. |
| Section 3.2, Page 10 | Kenneth Shewmake | Sampling Approach: The extensive use of judgmental sampling is normally discouraged because it limits the use of statistical methods for evaluating the area. The number of samples and the sample placement appears to be appropriate for on-site sampling but in future iterations we need to use an appropriate sampling plan with the number of samples determined by the number of samples needed for the statistical approach use. |
| Section 3.5.1 Page 14 | Raji Josiam | Soil Sampling: Should any COPCs in a soil sample from the deepest interval of a boring, but above the saturated zone, exceed their respective PSVs as detailed in the QAPP, then additional deeper soil samples will be collected as needed to define the vertical extent of that COPC, but not to a depth below the water table. Why not below water table? How deep is the next aquifer? |
| Section 5.3.1 Page 23 | Raji Josiam | Soil Sampling: For soil samples that will be analyzed for VOCs, samples will be collected using the SW-846 5035 Method by utilizing the Terracore or equivalent sampling equipment. Please check to see if any of the August 2015 SW-846 updates apply. |
| Section 5.7.4 Page 36 | Anna Milburn | Tissue Processing: Fish tissue samples – The human health risk assessment typically evaluates fish fillets and the ecological risk assessment typically evaluate whole-body fish tissue. |
| Section 7.0 Page 43 | Raji Josiam | Management of Investigative-Derived Waste: Please include that the off-site facilities are to be approved by the EPA. |
| Table 1 | Lam Tran | Data Needs Summary: Replace "property" with "site" for HRSC - "high-resolution **site** characterization" |

# RI/FS Quality Assurance Project Plan (QAPP)

| Section | Reviewer's Name | Comments |
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| Section 2.4.1.2 page 12 | Kenneth Shewmake | DQO Step 2: Identify the Goals of the Study - Principal goals: This step is typically used to describe the decisions that need to be made at the site. For example the following are decisions that need to be made for the SLERA. Other decision statements may be required for the human health evaluation.<br><br>a) Develop a list of COPCs that require further evaluation in subsequent iterations or during the BERA.<br>b) Determine the extent of contamination and evaluate potential pathways to see if contamination has spread to offsite areas.<br>c) Compare maximum concentrations to established ecological screening values to see if the hazard quotient exceeds one.<br>d) Compare sample results to background concentrations. |
| Section 2.4.1.4, Page 13 | Kenneth Shewmake | DQO Step 4: Define Boundaries of the Study - Spatial Boundaries First Paragraph: This states "If needed, background data collection activities will be performed in areas beyond the identified lateral extent of contamination." Background sampling is needed and should be conducted as stated in other parts of the document. This should be done in the first iteration of sampling. |
| Section 2.4.1.4 Page 13 | Anna Milburn | DQO Step 4: Define Boundaries of the Study - Spatial Boundaries: The statement is made that the entire study area (12.2 acres) will be evaluated as a single unit in the baseline human health risk assessment. EPA believes that process areas may need to be evaluated separately to address areas with higher contamination levels. It is not appropriate to average concentrations across the entire site if there are distinct areas of concern (AOCs). The 95% UCL may be calculated for discrete AOCs rather than site wide for the EPC. |
| Section 2.4.1.4 Page 13 | Kenneth Shewmake | DQO Step 4: Define Boundaries of the Study - Spatial Boundaries Last Paragraph: This paragraph states the study area will be evaluated as single unit and off property risk will be |

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| | | evaluated separately. This is not clear. It sounds like 2 areas will be evaluated. Onsite and offsite. The decision areas need to be defined. A figure showing areas needs to be presented. Some adjustment could be allowed after sample collection provided sufficient data is collected to support a decision and the EPA approves the adjustment. The offsite study area could also be determined before the second iteration, but more information will be needed prior to offsite sampling |
| Section 2.4.1.5, Page 14 | Kenneth Shewmake | DQO Step 5: Develop the Analytical Approach - COPC Extent Evaluation 3rd Paragraph: The approach described for evaluating the spatial extent of contamination is not adequate. If a COPC is retained following the first iteration then a sampling plan that uses an appropriate statistical approach will need to be developed. This plan will need to focus on fully evaluating the likely pathways and areas where environmental media may be impacted. |
| Section 2.4.1.5, Page 15 | Kenneth Shewmake | DQO Step 5: Develop the Analytical Approach – Risk Assessment: This section mixes the human health and ecological evaluation in a way that could be confusing in subsequent steps of the risk assessment. For example it refers to evaluating cancer risk as part of the SLERA. This section should describe comparing max values to ecological screening values in steps 1-2 or the ecological risk assessment. It could describe using the 95UCL and other modifications to calculations if a BERA is needed. It should discuss the method used to compare results to background. It should contain specific information such as how non-detects will be addressed. It should discuss when bioaccumulative COPCs will be carried forward. If alternate methods of evaluating some COPCs are going to be used, such as toxicity equivalence factors, this should be discussed. It should be clear how the decision to carry a COPC forward to other iterations or a BERA will be made. |
| Table 1 Step 2 | Kenneth Shewmake | Data Quality Objectives for AOI-1: The questions listed for step 2 do not match the text on page 12. |
| Table 3 | Kenneth Shewmake | Analyte List and Preliminary Screening Values for Groundwater and Surface Water - Herbicides and Pesticides: The use of acute values for freshwater may not be appropriate. The table should show chronic screening values as well. The value listed for chromium is for trivalent chromium. Since the site has been used for tanning leather hexavalent chromium analysis should be done as well and hexavalent screening levels are needed. |

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| Table 4 | Kenneth Shewmake | Analyte List and Preliminary Screening Values for Groundwater and Surface Water - Herbicides and Pesticides: It is not clear what method is being used for calculating total PAH and what screening value is going to be used in surface water |
| Figure 2 | Kenneth Shewmake | Site Vicinity Map: (same comment at WP Figure 2) The surface water/ sediment background area 2 is too close to the site and may be impacted by site activities. The other background areas seem to be more appropriate. |
| Figure 8 | Kenneth Shewmake | Ecological Preliminary Conceptual Site Model: (Same comment as WP Figure 8) It is possible the onsite sediment and surface water, in the shallow trench on the south west side of AOI-1, is impacted by contaminants from the groundwater to surface water pathway. This should be shown on the CSM unless it is shown this pathway is not complete. |

# RI/FS Site Health and Safety Plan (HASP) – No Comments